

APPENDIX A

GENERAL DEFINITIONS & SERVICE FUNCTIONS

This Appendix provides the basic definitions and service functions of local communications services under the scope of this contract. The Government requires the Contractor to abide by the performance level and functionality of the local exchange, access, and transport services defined by standard network levels for lines, trunks, and other circuits terminated to the site.

Aviation Records Building (ARB) – Where primary demarcation point is located at the Aeronautical Center.

Analog Line – A subscriber line that transmits information in analog signal. An analog line is termed tip and ring, which carries one bi-directional telephone call.

B Channel – Bearer channel that can transmit digital information at 64 Kbps, usually for ISDN basic and primary rates.

Basic Rate Interface (BRI) - The physical layer standard I.430 produced by the International Telecommunication Union (ITU). The BRI configuration provides two 64 kbit/s bearer channels (B channels) and one 16 kbit/s data channel (D channel). The BRI configuration is intended primarily for use in subscriber lines similar to those that have long been used for plain old telephone service.

Central Office Trunk – A trunk or line terminating from the Contractor's Central Office.

Channel – A communication path which may send in one direction only (simplex); both directions alternating (half-duplex) or both directions simultaneously (full duplex).

Circuit – Generic term used to refer to a communication path between two or more endpoints, between an endpoint and a network service node, or between service nodes.

Circuit Extension – To extend a circuit or circuits beyond the current demarcation point to a user designated location.

Circuit ID/Name – A common language name assigned to a line, trunk, trunk group, or a transport service circuit.

Commercial Subscriber Line – A subscriber line serving directly from the Contractor's central office switch.

Contracting Officer (CO) – A person duly appointed with the authority to enter into and administer contracts on behalf of the Government.

Contracting Officer's Technical Representative (COTR) – An individual designated in writing by the Contracting Officer to perform specific contract functions.

Cutover – Physical activation of the initial or subsequent local communications service requirements as specified in the contract.

Data Circuit – A communications facility which allows transmission of data in either direction. Data may be in the form of analog or digital signals.

D Channel – A data channel that is used for call setup and user data for ISDN. Common to ISDN lines, the D channel operates at 16 Kbps for BRI and 64 Kbps for PRI.

Demarcation – The location where the Contractor’s responsibility ends and the Government’s responsibility begins. A position or location intended to provide a physical termination of a transmission facility. The demarcation typically is designated to be a patch and cross connect panel (e.g., DSX, fiber patch panel, CAT 3/5 panel) or a terminal block (e.g., split 66 type connector block, 110 type terminal block, distribution wire wrap terminal block). The demarcation serves to designate the responsibility limit for a transmission system or circuit beyond which maintenance or activation becomes the responsibility of another service or transmission carrier. Typical demarcations are as follows:

- Analog DS-0 Terminal block on wall mounted block or distribution frame
- DS-1 DSX cross connect panel
- Category 3/5 RJ-4 jack panels
- DS-3 Coax cross connect panel
- OC-1, OC-3, OC-12 Fiber optic patch panel

Department of Transportation (DOT) – Federal Agency of the government responsible for all modes of transportation, including the Federal Aviation Administration (FAA).

Digital Line – A subscriber telephone instrument or terminal and line that transmits information using digital signaling and messages to relay call progress or feature instruction operation to the key system of PABX.

Direct-In-Dial (DID) Directory Numbers – Directory numbers reserved from the local exchange Contractor for use by the customer. Numbers are assigned by the customer as required to the stations homed off of the local PABX. Numbers are usually reserved individually or in blocks. These local exchange direct-in-dial numbers permit the local exchange network to establish and terminate calls to private exchange switching systems owned by customers.

Direct-In-Dial (DID) Trunks or Lines – Indicates the inward originating direction of a trunk call from the serving exchange to the customer’s telephone switching equipment without the assistance of an operator.

Direct-Out-Dial (DOD) Trunks or Lines – Indicates the outward originating direction of a trunk call from the customer’s telephone switching equipment to the serving exchange without the assistance of an operator to originate the outgoing call from the user.

Directory Assistance (DA) – Access to DA provided services include 411, 555-1212 and NPA-555-1212.

Directory Number – An exchange access direct-in-dial number (NPA-NXX-XXXX) assigned or provided to a customer’s private branch exchange station line.

Diverse Routing – An alternate route or backup cable facility to protect the single point of failure.

Diversity – A transmission facility path which provides alternate or backup routing and physically separated transmission paths from the primary path.

Downtime – The total time that communications service is unavailable to the customer due to equipment failure or interruption of service.

DS-1 (1.5444 Mbps) – The Digital Signal Level 1 is a digital transmission format in which twenty-four 65 Kbps channels are multiplexed into one 1.544 Mbps T-1 digital channel.

Dual Tone Multi-Frequency (DTMF) Signaling – Signaling format used primarily by telephone stations and PABXs in which a matrix combination of two frequencies, each from a group of four frequencies, are used to transmit numerical address information. The combinations are made from the following frequencies: 697 Hz, 770 Hz, 852 Hz, 941 Hz in one group and 1209 Hz, 1336 Hz, 1477 Hz and 1633 Hz in the other group.

Emergency 911/311 Assistance (Calling) Services – Access to enhanced 911 and 311 services (where applicable) provided by the local city or county emergency services organization. This access is typically by a central automatic message accounting (CAMA) trunk, which provides Automatic Number Identification to the connecting central office.

End-to-End – From a serving point to a destination point.

Exchange Access Trunks – Two Wires - Provides a communications path connecting the trunk side of the serving exchange to the trunk side of the local PBX utilizing two wires for both transmission and receiving. Communications usually take the form of full duplex or half duplex.

Exchange Access Trunks – DS1 with PRI - Provides a co communications path connecting the trunk side of the serving exchange to the trunk side of the local PBX utilizing an ISDN circuit divided into twenty-three 64 Kbps digital channels (B channels) for voice, data, video, etc. and one 64 Kbps channel (D channel) for out-of-band signaling.

Exchange Area – The local territory of specific NXX exchanges within which telephone service is provided without extra charge. An exchange area is usually smaller than a LATA, and established by the Public Utility Commission for the administrations service in a specified area which is defined by a specific geographic area. Exchange area consists of one or more central offices together with the associated facilities used in furnishing communications service within that area.

Extending Commercial Subscriber Lines – To extend business subscriber lines beyond the established demarcation to a specific customer location and terminate on specified customer premise equipment (telephone set, FAX, etc.).

Features – Provides, as a minimum, but not limited to, the following common optional features for a subscriber line:

- **Access Restrictions** - Limits a user's access to the exchange network, private network, and certain services and features.
- **Collect Call, Blocking** - IC calls (to a commercial subscriber line or an exchange access trunk handled with operator assistance) from a caller desiring to bill long distance charges against the called parties directory number. This service is requested to be blocked at the local exchange (regional) operator or exchange switching features to prevent billing at the called party directory number.
- **Caller ID/Name and Number Display** - Displays the calling/called name and directory number, which is associated with its directory number, on the station's LCD.
- **Third Number Billing, Blocking** - Billing long distance charges against a third party directory number (different from the called parties directory number). Blocking prevents a caller from using the "third party" directory number from being used for billing.
- **Toll Restriction** - Restricts the station user from placing long distance calls.

Flat Rate (FR) - FR is a fixed monthly basic service charge with unlimited calling and unlimited usage for local exchange and access.

Integrated Service Digital Network (ISDN) - ISDN transmits voice, data, and video simultaneously at high speed over the existing voice line. A single ISDN circuit divided into 23 64 Kbps digital channels (B channels) for voice, data, video, etc., and one 64 Kbps channel (D channel) for out-of-band signaling.

Inter-Exchange Carrier - Any entity which provides communication services between two or more Local Access and Transport Areas (LATAs).

InterLATA - Communications services that span from one LATA to another LATA.

IntraLATA - Communications services that span within one LATA.

Line - A subscriber line that transmits both voice, data, and video information simultaneously on the same cable pair. An ISDN line is also called a digital subscriber line which carries several calls.

Local Access and Transport Area (LATA) - A geographic area defined for local exchange carriers (tariff based telephone companies) to provide and administer communications services. A LATA consists of designated exchange (access) areas.

Local Exchange Carrier (LEC)- The local set of specific NXX exchanges within a central office switching system from which telephone service can be provided without extra charge.

Local Service Areas - Denotes a geographical area in which the end users may call each other without being charged for long distance service.

Loop Start Signaling - A signaling format which indicates a request for service condition between an analog phone set operation and a switching system or between switching systems by closing the circuit and allowing a DC current to flow.

Loop Test - A method of making two-way transmission tests on access trunks. These transmission tests measure signal level and noise over access lines and trunks. The test equipment located at the Contractor's switching system is accessed by a seven-digit number.

Monthly Recurring Charge (MRC) – The monthly charge of a service item.

Maintenance - Any action taken to keep equipment in a serviceable condition or to restore it to serviceable condition for its original intended purpose using Nortel or certified equivalent parts.

Maintenance – Preventive - A systematic series of inspections, adjustments, tuning, and cleaning performed at regular intervals on equipment to eliminate major breakdown, interruptions of service, and to keep the equipment operating at top efficiency.

Maintenance- Corrective - The repair, replacement, adjustment, or alignment of failed items necessary to restore equipment or circuits to their full operational capability.

Maintenance Test - This test provides a measure of quality check on the connecting facilities. Tests typically include net loss, bit error rate, echo return loss, supervision signaling, etc.

Mike Monroney Aeronautical Center (MMAC) - Campus environment consisting of over 70 primary buildings, two demarcation points, and multiple telecommunications requirements.

Non-Published Directory Number - A non-listed directory number which will not be published or given in any means, with the exception of state and/or federal regulations and policies requirements.

Non-Listed Directory Number - A user phone number which is not listed in the local telephone directory, but can be given to the public.

Non-Recurring Costs (NRC) - A one time charge by the Contractor to activate a specific service.

North American Numbering Plan (NANP) - A destination code scheme whereby each station has a unique address defined by a 10-digit code. The code consists of a 3-digit NPA code and a 7-digit telephone directory number consisting of a 3-digit Central Office exchange code and a 4-digit station number.

Number Portability - The capability for the customer (Government installation) to retain the currently assigned exchange direct-in-dial prefix (NXX) and station directory numbers regardless of the local service provider.

Numbering Plan Area (NPA) - Geographic subdivision of the territory covered by the North American Numbering Plan. Each NPA is identified by a 3-digit code in the form of NXX where N is any digit between 2 and 9 and X is any digit between 0 and 9.

NXX - A Central Office exchange code consisting of 3 digits which designates a particular central office. N is any digit between 2 and 9 and X is any digit between 0 and 9.

Off Premise Extension (OPX) - This is an extension telephone number that terminates in a location distant from its demarcation point and not on an extension of the on-premise PBX.

Point-to-Point Circuits - Circuits which connect two points directly, where there are generally no intermediate processing nodes. However, there could be switching facilities.

Primary Demarcation - The primary location where the telecommunications circuits are terminated.

Primary Rate Interface (PRI) - PRI is the standard for providing telecommunication services to offices. The Primary Rate Interface (PRI) consists of 23 64-kbit/s B-channels and one 64-kbit/s D-channel using a T1 line, often referred to as "23B + D".

Public Switch Telephone Network (PSTN) - The network of the world's public circuit-switched telephone networks. It consists of telephone lines, fiber optic cables, microwave transmission links, cellular networks, communications satellites, and undersea telephone cables, all inter-connected by switching centers.

Private Branch Exchange (PBX) - A private automatic branch exchange telephone switching system providing telephone services to users needing to connect to other telephone users on the PBX or onto other switching systems.

Public Listing - A listing shall consist of an organization's name, address and telephone number in the local telephone directory. The public listing for the Government organization is under the United States Government section, blue pages or alphabetical section, white pages. Additional, foreign, and cross reference listings are optimal.

Relocation - Moving a telephone station from one location to another. The relocation also consists of updating the address data base/system and other administrative actions.

Repair - The application of Maintenance Services or other maintenance action to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, NT- coded equipment, plug-in circuit packs, module (component or assemble), end item, or system.

Response Time - Difference between the time the Government notifies the contractor (or his answering service during non-duty hours) of a corrective maintenance requirement and the time that the contractor arrives on-site.

Secondary Demarcation - An alternate location for local communication's circuit termination.

Service Outage - Any loss of call handling capability further defined as follows:

- **Catastrophic Outage** - The loss of over 50% or more of the total call handling capability of any local exchange trunk group or transport circuit.
- **Emergency Outage** - An outage that significantly affects a mission critical organization.
- **Serious Outage** - The loss of over 25% or more of the total call handling capability of any local exchange trunk group or transport circuit.
- **Routine Outage** - The failure of any local communication service or circuit to meet the design characteristic requirements not listed above.

Special Service - A special service or facility to satisfy a future requirement which is not covered under the scope of the contract. This may include moving or relocating equipment, providing temporary facilities, and/or expediting the provisioning of services or facilities.

Subscriber Line - A communications path connecting the line side of a local exchange switch with an end user's premise equipment. Premise equipment includes telephone sets, data processing equipment, etc. A subscriber line could be an analog or digital line. A subscriber line usually has higher usage, and it is not a residential line.

T-1 - An electrical high-speed communications carrier that transmits at DS1 format of 1.544 Mbps. T-1 consists of 24 each 64 Kbps channels.

Tariffed Service - Tariffed services are those telecommunications services that are purchased at prices regulated by the state Public Utility Commission (PUC) and/or the Federal Communications Commission (FCC). The prices, terms and conditions of these service offerings are set forth in tariffs that are on file at the regulatory commission. Normally, basic telephone service and other services provided by a telecommunications provider are considered as tariffed.

Traffic Analysis - Quantitative measurement of the total calls and their lengths, expressed in hundred call seconds.

Transport Channel - A transmission path from the Government destination demarcation to the destination off-site for a voice, data, or alarm circuit.

Trouble Call - A customer complaint concerning service interruptions or equipment malfunctions. (Calls received at the Test Board/Trouble Desk/Switchboard/Duty Officer or from the COTR during duty or non-duty hours).

Trunk - A communication path between two switches that carries telephone calls.